



THE NORTHLAND SKY WATCHER



*For National Weather Service weather watchers of
northeastern Minnesota and northwestern Wisconsin*

Emergency Officials' Efforts are Rewarded

Emergency Managers Conference Site of Awards Banquet

Emergency planners from the Minnesota Arrowhead received accolades from their peers at the annual Association of Minnesota Emergency Managers conference held at Ruttger's Lodge in Deerwood. They were recognized for their efforts in planning and preparing for the increased threat of wildfires resulting from the July 4th, 1999 windstorm that raked the Boundary Waters Canoe Area Wilderness and Gunflint Trail.

Nancy Koss, Emergency Manager for Cook County received the Outstanding Director for the Northeast Region Award. She was recognized for her work in preparing her county for the large wildfires that may occur in the blowdown areas.

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Laura Popkes (left), Gunflint Trail EMT Chief, and Dan Baumann (center), Gunflint Trail Volunteer Fire Department Chief, received an award on behalf of the Gunflint Trail Volunteer Fire Department. Nancy Koss (right), Cook County Emergency Manager, received the Outstanding Director Award.

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Her persistence in obtaining NOAA Weather Radio coverage for the Gunflint Trail paid off with the installation of three transmitters late this summer. (See *NWR Expansion* article, below) Not only will NOAA Weather Radio alert residents and visitors to advancing storms, it will also alert them to life-threatening emergencies, such as wildfires.

The Gunflint Trail Volunteer Fire Department received the Outstanding Region II Volunteer Award for their work involved in the July 4th blowdown. Before the storms hit, the firefighters warned neighbors and campers in the Gunflint corridor and provided shelter to those in need. After the storms blew through, they provided medical assistance and helped open roads. To make evacuations go smoothly, they developed evacuation kits for six areas of the Gunflint. These kits will help emergency personnel respond much more efficiently to an evacuation.



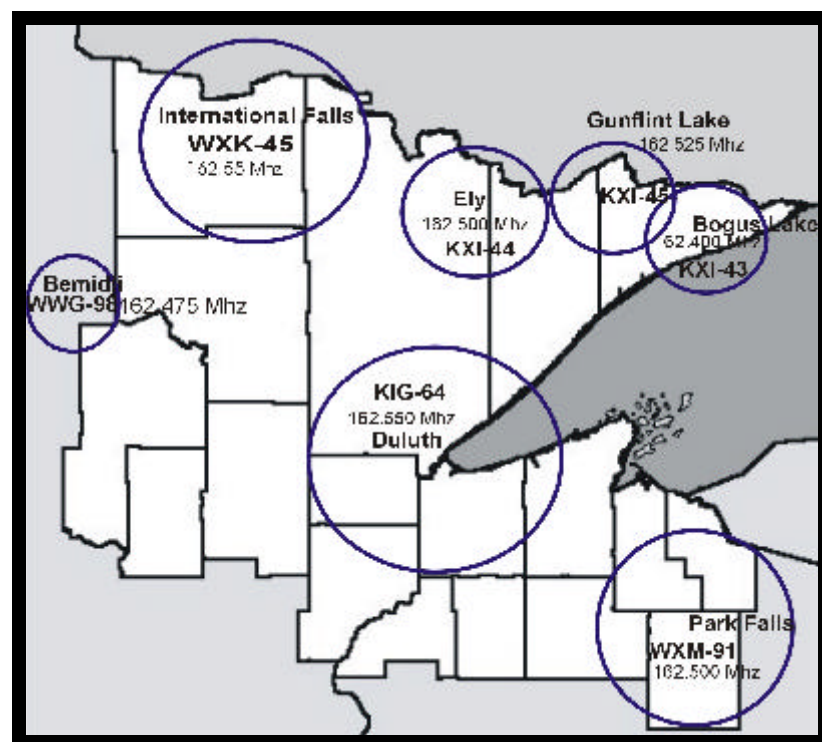
Weather Radio Coverage Expanding

Three new NOAA Weather Radio transmitters were installed late this summer. Ely (KXI-44) and Bogus Lake (KXI-43) are transmitting, while Gunflint Lake (KXI-45) should be transmitting later this year. If you travel or camp in these areas, take your weather radio along to keep up with the latest weather conditions.

In order to accommodate the new transmitters WFO Duluth's Broadcast Group and electronic technicians expanded the system that provides the audio for the new stations. The system, called the Console Replacement System (CRS) is now able to provide audio to 13 transmitters, up from 3 just weeks ago.

Kurt Mayer has been added as a new member to our Broadcast Group. His computer software skills will be helpful in the days ahead. Other members of the group include Greg Frosig, forecaster/focal point, Steve Wannebo, hydro-meteorological technician, and Martin Lee, electronics technician.

We hope that you will use the up-to-the minute weather information and alarm features of NOAA Weather Radio as you travel through these new weather radio coverage areas.



NOAA Weather Radio coverage in northeastern Minnesota and northwestern Wisconsin.

- Martin Lee, electronics technician

A Recap of Summer 2000

Although there were no storms that reached the magnitude of the derecho that swept across northern Minnesota on July 4th last year, there were still some pretty hefty storms that caused a lot of damage. Here is a look at two widespread events that hit last summer.

July 8th

High winds and heavy rainfall occurred across Pine, Burnett, Washburn, and Sawyer counties. A warm front lifted into central Minnesota and northern Wisconsin in the morning. As the day went on, strong heating south of the front set up a large temperature contrast with the cool, cloud-covered area north of the front. The southern airmass became very unstable by midday. Thunderstorms fired up over central Minnesota and expanded east during the afternoon and evening. The first warning was issued at 9:56 am and the last was issued at 6:55 pm.

The largest concentration of wind damage, mainly to trees and trees falling on cabins and homes, occurred over Burnett and Sawyer Counties. There was a brief tornado touch down 5.8 miles southeast of Siren. The 75 foot-wide F0 tornado took down some trees and tore the door, frame and all, from a barn. It traveled 1/2 mile southeast into Polk County. Intense rainfall washed out many roads and bridges in Burnett, Washburn, and Sawyer counties. Some rainfall reports include: Webster, 8.18", Winter, 4.18", Spooner, 3.96", and Pine City, 4.10". Burnett and Sawyer counties will receive federal disaster monies for the damage caused by the storms.

August 14th

This was a long-lived event that began with the first warning at 10:26 am for golf ball size hail at Walker. The final warning of the night was issued at 10:44 pm for southern Burnett County where 1 inch hail fell near Falun.



This bridge, on County Rd EE in southern Burnett County, WI, was washed away by heavy rain that fell on July 8, 2000. This stresses the flood safety rule- never drive over a water-covered bridge!

High winds, large hail, and flooding rains hit mainly central Minnesota and northwestern Wisconsin. The largest hail was 4 inches in diameter that fell near Solon Springs, but there was widespread golf ball to baseball size hail across the warning area. Winds estimated to 80 mph toppled trees across Carlton, Pine, the southern half of Douglas, Burnett, northern Washburn, and northern Sawyer counties. The heavy rain washed out many roads in parts of Douglas, Bayfield,

and Burnett counties. Two and a half inches of rain fell in 20 minutes at Barnes.

Both of these events and other smaller events kept spotters busy this summer. Skywarn spotter groups were activated for a total of 52 hours.

Our sincere thanks to all of our Skywarn spotters for all of your timely and helpful reports!



The NWS Helps the Great Lakes Aquarium

The Great Lakes Aquarium at Lake Superior Center in Duluth is open! Ten people from our office worked with the aquarium staff to create the NOAA Weather Kiosk. The kiosk is composed of computer touch-screens that contain real-time weather information, including radar and satellite imagery, as well as current weather conditions via the aquarium's outdoor weather station. The Great Lakes Aquarium webcam is one of the more popular features displayed in the exhibit. Our office also helped them with informational content, including summaries of memorable weather events that have occurred on Lake Superior and the surrounding area. To complete the weather section, there are hands on weather exhibits that "let you be the forecaster."

We are very proud to be a part of this magnificent facility. Given that our mission is the protection of life and property, it was a natural extension of our educational focus.

- Dean Packingham, forecaster



We're Paring Back the Northland Sky Watcher

Beginning in 2001, the *Northland Sky Watcher* will be issued twice a year, instead of four times a year. While we enjoy the work we put into the newsletter, we find the time involved in a quarterly newsletter is putting a strain on our resources. So, we are cutting back to two per year- one in the fall and one in the spring. But, don't worry- we won't cut back on quality!

Please pass along any good weather stories, pictures, questions, quotes- anything that you find interesting. Chances are, other weather enthusiasts will, too. We'll try to put them in the next *Sky Watcher*.

Thanks for watching the sky and reading the *Northland Sky Watcher*!

Sharing Knowledge

As operational meteorologists, one of the many things we do is participate in sharing our knowledge and expertise with others. One of the more enjoyable ways of sharing our expertise in the field of atmospheric science is via the Student Volunteer Program.

As the name suggests, students voluntarily come to the weather office to learn as much as they can about weather and NWS operations. On occasion, the volunteers lend a hand in some of the many tasks required of today's Weather Forecast Office.

This year, Northland College (Ashland, WI) students Steve Holmstadt, Abbie Kapper, and Kerry McElligott will be donating their time at the office. They are looking to supplement their knowledge of meteorological processes by working directly with the office staff in an operational setting.

Another of our student volunteers, Jill Heimenz, is a student at the University of Minnesota-Duluth (UMD). Jill has been helping Sam Standfield, our Climate focal point, digitize the climate database for International Falls, MN during the past summer. She has done a tremendous job in updating daily, monthly, seasonal, and annual temperature and precipitation extremes. Fortunately, Jill's studies at UMD allow her to continue her work this fall!

Closely related to the Student Volunteer Program is something called STEP. STEP stands for "Student Training and Experience Program". Qualified meteorology students can apply for this program which is funded by the federal government. The fortunate selectee is paid while gaining experience in the field of meteorology!

This past summer, Dave Novak, a graduate of St. Cloud State University, worked in the office under the STEP program. Dave was a great help since he already had some experience working with the National Weather Service in Alaska. Dave was especially helpful during the severe weather episode of August 14th, when the office issued more than 65 severe weather warnings in a twelve hour period. At the end of the summer, Dave moved on to graduate studies at SUNY-Albany. We wish him well.

- Norvan Larson, Science and Operations Officer

The Co-op Corner

We have been on the road a lot this year- passing out awards and fixing MMTS'. It seems every other MMTS out there got struck by lightning at least once this summer.

We proudly presented length-of-service awards to the following NWS Cooperative Observers this summer:

35 years: Charles Williams, Kettle Falls, MN
25 years: Roger Langham, 7W of Couderay, WI
10 years: Robin and Willie Silvernagle, Foxboro, WI
James Clark, 5WSW of Minog, WI
Eugene Hansen, 12N of Isle, MN
Ray Rath, 7ENE of Bruno, MN

Congratulations and thank you!

Attention snowfall spotters!

'Tis the season for us to start hearing from you! Using our toll-free number, call us when you get an inch of snow, then when you get three inches, 6 inches, and so on. When the snow has stopped falling, call us with a final, total amount. If you have any questions about snow spotting, give us a call.

Our data guy, Jim Christenson, passes along this helpful information to use when measuring snow:

- ^ If the snow has drifted, take several measurements where the snow is least affected by drifting (don't include deep drifts) and take an average.
- ^ When snow accumulates, melts, and accumulates again, the snowfall is the sum of each accumulation before melting.
- ^ *Snowfall* is measured in tenths of an inch.
- ^ *Snow depth* is measured to the nearest whole inch.
- ^ When less than 50 percent of the ground area is covered by snow, then the snow depth should be recorded as a "trace".
- ^ Never use the sum of frequent snow observation of a cleared surface to determine daily snowfall. This will inflate the apparent snowfall.
- ^ For those of you doing core samples, send in your water equivalents starting February 5, 2001.

Each year an average of 105 snow-producing storms affect the US.
A typical storm will have a snow-producing lifetime of two to five days
and will bring snow to portions of several states.



The *Northland Sky Watcher* is a newsletter published by the National Weather Service Office in Duluth, MN for our weather spotters and observers. We welcome your questions and comments. We can be reached by:

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Watch for the March 2001 issue of the *Northland Sky Watcher* for the Spring Skywarn Training schedule.



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